Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
International Bureau Seeks Comment on	)	Report No. SPB-196
Proposals to Permit Reducing Orbital Spacings	)	
Between U.S. Direct Broadcast Satellites	)	

REPLY COMMENTS OF TELESAT CANADA

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Executive Summary

There is wide-spread agreement among both U.S. entities and non-U.S. entities that an FCC Rulemaking to address orbital spacing issues for U.S. Direct Broadcast Satellite ("DBS") satellites is not necessary or appropriate. As most of these parties point out, this is an internationally-planned band, governed by the Region 2 provisions set out in Appendices 30/30A of the ITU *Radio Regulations* ("Region 2 Plan"). Included in these provisions are detailed procedures for introducing modifications to the Plan, as well as requirements for Administrations seeking a modification to gain agreement from those Administrations whose assignments would be affected. As further noted by a number of parties, the successful coordination of satellites, and short-spaced satellites in particular, will require careful examination of the specific operational characteristics of the neighbouring satellites in question. Therefore, an FCC Rulemaking is inappropriate because it would attempt to impose a unilateral framework, instead of the existing ITU-sanctioned mechanism which allows a case-by-case coordination process.

While there is wide-spread agreement that existing Region 2 Plan rules and procedures are in place for handling modifications to Plan entries, some parties fail to understand, or conveniently ignore, the fact that changes to the fundamental principles or underpinnings of the Plan would require international study by all Region 2 Plan entities. There is an important distinction here - modifications to Plan entries essentially entail a piecemeal sequential process involving the operators and Administrations directly affected, whereas if changes to the basic underpinnings of the Plan are being sought in order to systematically decrease BSS orbital spacings, then this requires the participation and agreement of all Region 2 Administrations, even those without existing or planned DBS or Broadcasting Satellite Service ("BSS") networks. Certain proposals concerning reduced orbital spacings advanced by other parties in this Public Notice proceeding would require Plan changes, and not just Plan modifications, and would therefore require international study and agreement.

There is also wide-spread agreement that incumbent networks must remain protected through any modifications or other changes to the Region 2 Plan. As observed by many, these existing networks represent billion dollar investments and currently provide service to tens of millions of subscribers across Region 2, and it would be patently unacceptable and unfair for

any Administration to unilaterally implement any changes which might jeopardize this enormous financial investment and/or curtail or degrade the subscriber services. Some proponents of reduced orbital spacing acknowledge that the interference to adjacent satellites caused by short-spaced satellites would be significant, but the technical analyses they use to conclude that these problems can be overcome are overly simplistic. In a satellite environment where operational characteristics vary widely from one situation to the next, results obtained from one situation cannot be generalized to cover another. Each interference case must be studied and analyzed on its own merits.

Certain parties have also suggested that Telesat has entered into arrangements involving its Nimiq satellites with a U.S. party which they allege would unduly lessen competition or foreclose the opportunity for competitive entry through Canadian licensed orbital locations. Not only is this the wrong forum to raise these issues, but, as demonstrated herein, these allegations and proposed remedies (e.g., a full-CONUS spectrum cap with an attribution rule extended to non-U.S. licensed operators), are without merit and accordingly should be dismissed. The capacity arrangements which Telesat has concluded with the U.S. entity enable Telesat to restore capacity to Canadian customers lost as a result of the anomaly experienced by the Nimiq 2 satellite and allow Telesat to deploy an interim satellite into a Canadian orbital position pending the construction and launch of a new satellite. These are commercial arrangements negotiated by independent parties, which serve the public interest in Canada and the United States.

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Telesat Canada ("Telesat") has reviewed the comments submitted to the Federal Communications Commission ("FCC" or the "Commission") in the above-captioned proceeding and is pleased to provide the following reply comments. As Telesat stressed in its initial comments, the matter of reduced orbital spacing for Direct Broadcast Satellite ("DBS") or Broadcasting Satellite Service ("BSS") satellites operating in Region 2 has enormous implications for all Administrations and DBS/BSS satellite facility/service providers operating in this Region. Indeed, this is an internationally-planned band governed by the Region 2 provisions set out in Appendices 30/30A of the ITU *Radio Regulations* ("Region 2 Plan"). As such, changes to any of the technical provisions and parameters underpinning the Region 2 Plan (including reduced orbital spacing) cannot be implemented unilaterally by any Administration. Rather, such changes can only be arrived at through discussions and agreement at the appropriate international forum.

As Telesat also stressed in its initial comments, it has a significant direct interest in the matters being addressed in this proceeding. Telesat currently operates two BSS satellites in Region 2, Nimiq 1 at 91°WL and Nimiq 2 at 82°WL, and has been authorized by Industry Canada to operate a third BSS satellite in the 72.5°WL position. The Nimiq satellites and associated ground segment operations have been designed to operate in full conformity with the Region 2 Plan and current orbital spacing assignments, at a cost reaching into the billions of dollars. More than 1.3 million Canadians located in all regions of the country currently subscribe to Direct-to-Home ("DTH") services provided over these BSS satellites. It would be

patently unacceptable and unfair for any Administration to unilaterally implement changes which might jeopardize this enormous financial investment or degrade or curtail services to Canadian DTH service users.

Based on these twin needs of requiring all parties to operate in strict conformity with international agreements (and/or to seek changes to those agreements through the appropriate international forum) and of ensuring full protection for established DBS networks, Telesat offers its reply to the comments submitted by other parties in this proceeding.

I. There Is Wide-Spread Agreement That An FCC Rulemaking To Address Technical Matters Is Not Required While Appendices 30/30A Of The ITU *Radio Regulations* Remain In Force.

The Commission indicated in the Public Notice that comments filed in this proceeding "may form the basis for determining whether and, if so, how a more comprehensive review of the feasibility of and the modification of [its] rules to permit licensing U.S. DBS satellites at less than nine-degree spacing should be undertaken." (Public Notice at 2)

In Telesat's view, in light of the fact that this is an internationally-planned band with detailed provisions and procedures laid out in the Region 2 Plan to modify existing Plan assignments, the launching of an FCC rulemaking is neither necessary nor appropriate. This view is shared by many in this proceeding.

For example, among the non-U.S. government agencies filing comments, the Gibraltar Regulatory Authority ("GRA") states that:

> "The ITU Radio Regulations in Appendices 30/30A detail a process for changing the BSS plan to modify existing Plan assignments or to include new orbital assignments. The Radio Regulations require the administration requesting a modification of the plan to gain agreement of administrations whose assignments are identified as affected. The protection requirements of those affected and the needs of those requesting a modification will vary and should not be forced to adhere to a single blanket technical standard. International coordination practice under ITU procedure recognizes the unique circumstances that can exist requiring flexibility in reaching agreement between parties. The DIRECTV Proposal for Rulemaking proposes the FCC adopt

through a Rulemaking a single solution for reduced orbital spacing. This is not needed, and is inappropriate to apply to filings of other countries. Instead, the GRA advocates the continued pursuit of coordination under the ITU Radio Regulations." (GRA Comments at 1, footnote citation omitted)

The U.K. Office of Communications ("Ofcom") takes a similar position against the launching of an FCC rulemaking, claiming that it "is contrary to the principles enshrined in the ITU Radio Regulations." (Ofcom Comments at 1) In this regard Ofcom further notes:

> "Included in the Radio Regulations process is a methodology which triggers coordination with those countries that are potentially affected by the proposed modification to the Plan. The Radio Regulations require that the country requesting the modification of the plan seeks and gains agreement of the potentially affected countries as a pre-requisite to acceptance of the modification into the Plan. The protection requirements of affected countries and the country requesting the modification will vary depending on operational requirements, and in Ofcom's view do not lend themselves to a 'one size fits all' technical solution." (Ofcom Comments at 2)

Ofcom goes on to conclude that an FCC Rulemaking is "not only not needed, but is inappropriate to apply to the filings of other countries." (Ofcom Comments at 2)

The Ministry of Tourism, Telecommunications & E-Commerce for the Government of Bermuda ("Bermuda") also notes that "any and all ostensible Band Plan technical issues 'for establishing new orbital spacing for DBS in the United States,' as stated in the Public Notice, must be reviewed *within* the total context of explicitly accommodating existing coordination requirements and market entry rights, as delineated by international treaties." (Bermuda Comments at 1, emphasis in original)

Besides Telesat, other satellite operators also agree that a Rulemaking is neither required nor appropriate. For example, SES AMERICOM ("SES") urges the Commission not to commence an "unnecessary rulemaking", as proposed by DIRECTV, stating:

> "... the DBS frequency bands at issue are internationally-planned bands. The ITU, with full FCC participation, developed and implemented a detailed regulatory framework governing these bands, giving all Administrations rights and obligations with respect to their worldwide use. The Commission has fully incorporated these international rules and procedures into its own rules for the

DBS service, and has consistently followed these rules in licensing U.S. satellites.

Within this ITU and Commission framework, there is no nine-degree 'policy'. While each administration is assigned BSS channels at specific orbital locations, the ITU rules contain procedures for modifying these 'Plan' assignments, and for entering new assignments into the Plans, including at reduced orbital spacing. These procedures provide a mechanism for triggering coordination with potentially-affected systems, and a process for carrying out required coordinations.

.... In coordination, a variety of techniques can be used to permit operation of the new satellite while providing adequate protection to existing systems. Importantly, however, the Commission and ITU rules and procedures treat such issues on a case-by-case basis, and specify inter-system coordination to resolve technical issues. The situation at each orbital location is somewhat different, and these differences should be taken into account. For this reason, satellite parameters and protection criteria should not be prescribed in the Commission rules. This would constrain coordination, and preclude creative solutions that could lead to more efficient use of spectrum.

... Put simply, no rule changes are needed either to accommodate new DBS systems or protect existing ones. As is currently the case, the Commission should employ the rules and procedures already laid down by the ITU for the subject frequency bands." (SES Comments at i-ii)

Citing the same need for a flexible framework based on case-by-case coordination, New Skies also argues that initiation of a rulemaking is "unnecessary and likely counterproductive" (New Skies Comments at 7) and urges the Commission "to continue to rely on the existing ITU rules and procedures to resolve DBS orbital spacing issues." (New Skies Comments at 9)

For their part, Pegasus and EchoStar also recognize that Appendices 30/30A of the ITU *Radio Regulations* include mechanisms for modifying the Region 2 Plan, but both appear to mistakenly believe that the Plan adopted nine-degree spacing for orbital assignments serving the same geographic region. (Pegasus Comments at 2; EchoStar Comments at 3) In fact, the software used in 1983 developed the Plan entries to meet the requirements of Administrations in terms of frequencies and coverage areas, while meeting a standard of protection against interference. No *a priori* separation of nine degrees was specified. It turned out that for co-coverage or overlapping coverage, co-frequency entries the separation is about nine degrees, but this is by no means uniform. For example, the USA plan entry for 61.5°WL is 11 degrees

from the Canadian entry at 72.5°WL, 72.5°WL is 9.5 degrees from the Canadian entry at 82°WL, and the Canadian entry at 129°WL is 10 degrees from the USA entry at 119°WL.

Satellite operators also appear to be in general agreement that the successful coordination of satellites, and short-spaced satellites in particular, will require careful examination of the operational characteristics of the satellite networks in question. For example, EchoStar states that "[t]he ability to accommodate new DBS satellites spaced 4.5° from existing U.S. satellites ... will depend on the specific operational characteristics of the neighbouring satellites." (EchoStar Technical Annex at 2) SES makes a similar observation, noting that "[t]he spacing needed between satellites depends entirely on the particular operating parameters and service requirements of those satellites." (SES Comments at 29) In other words, detailed coordination with all potentially affected neighbouring Plan entries must be undertaken, as is consistent with the ITU *Radio Regulations*.

However, based on its coordination discussions with SES concerning the 105.5°WL position, EchoStar makes the false generalization that the results of the analysis in this specific situation "are indicative of the results that could be obtained in other situations of 4.5° spacing between DBS satellites across the CONUS orbital arc." (EchoStar Technical Annex at 7) Rather, the specific results for the SES/EchoStar case, as well as the Region 1 and 3 examples cited by EchoStar, are valid for those cases only and may not be indicative of the impact of filings spaced 4.5 degrees from other Region 2 Plan entries. That is, as noted above and as acknowledged by EchoStar elsewhere in its Technical Annex (EchoStar Technical Annex at 2), detailed coordination with all potentially affected neighbouring Plan entries must be undertaken.

EchoStar jumps to another curious conclusion concerning the coordination discussions going on with the SES filing at 105.5°WL and how this may relate to its filings to operate short-spaced satellites at 86.5°, 96.5° and 123.5°WL. Specifically, EchoStar states that "resolution of technical issues associated with EchoStar's applications will be significantly easier than with SES AMERICOM's application because the parties will not be delayed or hamstrung by the formal Administration-to-Administration coordination process." (EchoStar Comments at 6) It seems that EchoStar not only does not appreciate the non-co-coverage

interstitial entries in the Plan, but has also completely ignored the co-coverage entries of Canada at 82° and 91°WL – both of which are less than nine degrees distant from the orbital locations of EchoStar's applications, and which are currently occupied by Telesat satellites.

II. Any Changes To The Underpinnings Of The Region 2 Plan Would Require International Study & Agreement.

As stated in the Public Notice, "[o]ver the years, the Commission has streamlined the rules governing DBS to be responsive to technical changes as well as to promote competition and the efficient and expeditious use of spectrum and orbital resources.... *However, a comprehensive review directed at revamping the underlying orbital spacing plan under which DBS operates has not been undertaken.*" (Public Notice fn 8 at 2, emphasis added)

In its Comments Telesat expressed its view that any changes to the fundamental principles of the Region 2 Plan cannot be made in isolation or unilaterally by any one Administration, but rather must ultimately be addressed in an appropriate international venue. In Telesat's opinion, this venue would be the ITU-R Working Party for Broadcast-Satellite issues, WP 6S, perhaps leading to a Regional Radio Conference, if this is internationally determined to be the appropriate course of action. Telesat is of the view that the "underlying orbital spacing plan" entirely depends on the technical and regulatory provisions of the Plan, and accordingly, any proposed widespread changes to the spacing plan can only be brought about through international agreement at the ITU.

Comments made by SES lend support to this position. For example, in responding to DIRECTV's argument that a rulemaking is required so that the entire range of possibilities can be examined, SES states that this appears to suggest that the Commission has "an unfettered ability to assign DBS spacing". (SES Comments at 23) SES then goes on to state that this is not the case, and provides references where the Commission itself has indicated that it does not have this power. SES also refers to the fact that the U.S. is bound by treaty to the comprehensive ITU regulatory framework for modifying the Region 2 Plan (SES Comments at 10), and notes that "[t]he Commission cannot license orbital resources to which it has no right." (SES Comments at 34)

Boeing argues that in investigating DBS orbital spacing, the Commission:

> "...should include consideration of whether other Region 2 administrations should be consulted regarding potential adjustments in the Region 2 plan for DBS that could increase the number of satellite networks that are able to provide DBS services in the United States and elsewhere in the Americas. Consideration should also be given to whether changes to the technical provisions or procedures of the Appendix 30 Plan for Region 2 would be appropriate to simplify the process of coordinating DBS networks that are not in conformance with the Plan." (Boeing Comments at 2)

While Telesat appreciates the sentiment expressed by Boeing that consideration should be given to consulting with other Region 2 Administrations in this process, this clearly falls short of what would actually be required to introduce any such Plan changes – specifically, because the band is an internationally-planned band, other Administrations must be consulted and the matter dealt with internationally.

Boeing later goes on to state that its interference analysis of the 4.5 degree orbital spacing proposals indicates that short-spaced DBS satellites operating without technical restraints are likely to disrupt reception of their DBS services, but that once the Commission has developed "adequate operating limits", the Commission could proceed to authorize a new generation of short-spaced DBS satellites. (Boeing Comments at 5) Again, this can be done only in the context of modifications to the Region 2 Plan, where interference from both co-coverage and non-co-coverage satellites would have to be taken into account. The Commission cannot act on any such proposals unilaterally.

EchoStar argues that closer spacing would make more efficient use of limited DBS spectrum that would otherwise lie "fallow". (EchoStar Comments at 2) Like Boeing, EchoStar too fails to realize or acknowledge that the Region 2 Plan takes into account requirements from all Region 2 countries, many of whom have positions interstitial to the U.S. DBS positions. The impact of potential U.S. use of the "fallow" spectrum must be considered, again requiring the full participation of other Region 2 countries.

Similarly, Pegasus argues that additional, short-spaced satellites can be permitted without causing unacceptable interference to existing users, in the short term by restricting the power flux density of the new short-spaced satellites, and then over the long-term by operating all new satellites (presumably including replacements for all in-orbit satellites as they reach the end of their useful service lives) with relatively uniform technical constraints (apparently quite different from what are currently set out in the Region 2 Plan – e.g., a long-term PFD limitation enabling all satellites to operate with 4.5 degree spacing). (Pegasus Comments at 4) Pegasus also maintains that this could be achieved through modifications of the Region 2 Plans using procedures specified in Appendices 30/30A of the ITU *Radio Regulations*, rather than an overhaul of the Region 2 Plans through a World Radio Conference. (Pegasus Comments at 6)

While such an approach may be feasible in an unplanned band, where the Commission could establish a long-term PFD limitation with respect to U.S. licensed satellites, it would be extremely difficult in an internationally-planned band – i.e., to be effective the limitation would have to be implemented for all Plan 2 entries – U.S. and foreign licensed. Not only do incumbent networks have to be protected, but so also must all the Plan entries, in accordance with the internationally-agreed upon technical parameters of the Plan. Contrary to what Pegasus suggests, this would be extremely difficult to achieve through the coordination process (requiring successful coordination for each such U.S.-licensed position with all affected Plan entries). More likely, such an approach would require changes made to the underlying technical parameters in the Plan through international agreement.

While Telesat disagrees with DIRECTV's belief that the Commission can address and presumably act upon changes to the orbital spacing through a rulemaking proceeding, Telesat does concur with DIRECTV's grasp of the enormity of the challenge. For example, DIRECTV acknowledges that the ITU required "more than five years of study by industry experts" to revise the BSS Regions 1 and 3 Plan in order to provide more assignments. As DIRECTV goes on to observe:

> "As a result of these [ITU] studies, it was demonstrated that, in general, more that six-degree spacing between co- or adjacent-coverage, co-frequency assignments was required to avoid interference – *with 60 cm receive antennas*. Analogously, with 45 cm antennas ubiquitously deployed in the United States and throughout Region 2, a minimum satellite spacing of 7.55 degree spacing would be required

> to afford the same interference protection. This obviously is a far cry from the 4.5 degree spacing, and, at a minimum, suggests that a tremendous amount of technical work and analysis must occur before any form of reduced orbital spacing is actually implemented in the United States or Region 2." (DIRECTV Comments at 6, emphasis in original)

Telesat agrees that a "tremendous amount of technical work and analysis" would have to occur to change the orbital spacing plan to provide more assignments in Region 2, but this work would have to involve all Region 2 countries in an international process.

III. Incumbent Networks Must Remain Protected.

In the Public Notice, the Commission states that "the proponents of reduced orbital spacing for DBS acknowledge that any potential benefits must be achieved in a way that ensures that consumers continue to enjoy the benefits of existing DBS services." (Public Notice at 2)

This view was also strongly supported in the Comments phase of this proceeding. For example, Boeing states:

> "In considering changes to the present DBS orbital spacing, ... the Commission should protect existing services and current subscribers. More specifically, the Commission should refrain from authorizing any short-spaced DBS network if the new satellite system will cause harmful interference to existing services. This protection should extend to all services provided by DBS networks.... As the Commission is aware, the DBS industry and U.S. consumers have invested billions of dollars in DBS transmission and reception equipment. Any effort to improve the efficiency of DBS orbital spacing should not jeopardize this investment." (Boeing Comments at 2).

EchoStar concurs that existing DBS systems must be protected, stating that it "...has consistently made clear that any proposal for 4.5-degree spacing must not compromise the reliable service that is currently being provided to millions of DBS subscribers throughout the United States." (EchoStar Comments at 7) SES makes a similar point, noting that "the cost to re-point millions of DBS dishes, would be debilitating for U.S. DBS systems and customers." (SES Comments at 21) DIRECTV also confirms that billions of dollars have been invested in

deployed satellite infrastructure and that DBS service has grown to serve more than 20 million U.S. subscribers. (DIRECTV Comments at 1)

Canadian DBS networks have also grown to become billion dollar investments. As Bell ExpressVu indicated in its comments, these Canadian networks have been designed, deployed and operated pursuant to the ITU Region 2 Plan, and currently serve in excess of 1.3 million subscribers. The financial consequences of attempts to accommodate short-spaced satellites, or a change from nine-degree satellite spacing to 4.5 degree satellite spacing, would undermine billions of dollars of satellite-based infrastructure. As Bell ExpressVu observes, such a unilateral action would be manifestly unfair to the satellite facilities and service providers who have relied on the ITU Region 2 Plan. (Bell ExpressVu Comments at 1-2)

The State of Hawaii ("Hawaii") focused its comments on this issue, expressing concerns that increased interference from short-spaced DBS satellites could raise the costs for consumers of receiving existing services, or make existing services unavailable to current subscribers. To combat these concerns Hawaii recommends that the Commission adopt interference restrictions that prohibit degradation to existing services, if the degradation necessitates the purchase of new and potentially larger receive equipment in order to permit existing subscribers to continue to receive their service. Alternatively, if some degradation to existing services is permitted, Hawaii argues that operators of short-spaced satellites should be required to incur the costs of replacing receive antennas in order to ensure that subscribers of existing systems continue to enjoy the services at expected quality levels. (Hawaii Comments at 5)

Telesat agrees wholeheartedly that short-spaced satellites should not be allowed to cause harmful interference to existing DBS networks operating in conformity with the Region 2 Plan, but believes that Hawaii's proposed remedy where degradation occurs is problematic. In particular, with millions of subscribers tuned to an established network, the equipment replacement and installation costs would be horrendous, likely reaching into the hundreds of millions of dollars. The subscribers to be compensated would also have to include those outside of the U.S. receiving signals from foreign satellites, in cases where these satellite networks are impacted by any permitted short-spaced satellite.

Moreover, to the extent that larger dish sizes and/or a reduction in number of signals would be required, the conversion would have an adverse competitive impact on DBS service providers compared to cable TV system operators. Indeed, smaller dish sizes and expansion of service packages have been critical factors in gaining customer acceptance for DTH/DBS service. And again, the market consequences of any reversal of these trends would not be restricted to just U.S. service operators.

Some proponents of reduced orbital spacing have also acknowledged that the interference caused existing networks may be significant. For example, EchoStar concedes "that 4.5-degree spacing raises interference risks that are not negligible". (EchoStar Comments at 2) However, much of EchoStar's subsequent argument deals with the specific case of the SES filing at 105.5°WL and EchoStar operations at 101°WL. Based on the coordination discussions involving these orbital locations EchoStar indicates that it is now convinced that new DBS satellites can serve the United States using 4.5-degree spacing, "provided of course that they comply with appropriate safeguards", and that this led the operator to file its own applications at three orbital locations (86.5°, 96.5° and 123.5°WL) that are in close proximity to Canadian DBS positions (at 82°, 91° and 129°WL). To support its claim that reduced orbital spacing can now proceed throughout the orbital arc, EchoStar appears to be generalizing the results of its coordination activities with SES. This conflicts with its admission noted above that the ability to accommodate new DBS satellites spaced 4.5 degrees apart "...will depend on the specific operational characteristics of the neighbouring satellites." (EchoStar Technical Appendix at 2)

EchoStar further states that compared with the assumptions made during the development of the Region 2 Plan, "much higher levels of adjacent satellite interference can now be tolerated." (EchoStar Comments at 4) This is another generalization that cannot be made. By EchoStar's own admission, the antennas in use in Region 2 are normally 45 cm and may not meet the pattern assumed in the Plan. Further, as Telesat noted in its Comments, there is a fine balance that system designers must make between capacity, performance, receiver characteristics and adjacent satellite interference. Each interference case must be studied and analyzed on its own merits.

Bermuda claims that a satellite at its allotted 96.2°WL position "will achieve separation between the U.S. and Canadian satellites that slightly exceeds what SES and EchoStar find acceptable in their proposals" and that it can now work "diligently to exploit its allotment." (Bermuda Comments at 3) It should be noted, however, that Bermuda's Plan entry is not co-coverage with the adjoining U.S. and Canadian entities. Each coordination and potential interference case must be considered on its own merits.

Boeing indicated that its interference analysis of the proposals to launch DBS satellites with 4.5 degree spacing "clearly" indicates that short-spaced DBS satellites operating without technical restraints are likely to disrupt the reception of DBS services. (Boeing Comments at 5) The results of the Boeing analysis are set out in a technical annex. What should be noted is this analysis is overly optimistic in that only one interfering short-spaced satellite is considered, thus underestimating the impact on existing DBS services. In fact, a complete analysis would require consideration of all entries in the Region 2 Plan plus all proposed short-spaced satellites.

In its Technical Appendix, Pegasus also acknowledges that short-spaced satellites ± 4.5 degrees from other satellites cause additional interference, so much so that the short-spaced satellite's "eirp needs to be reduced significantly in order not to cause unacceptable interference." (Pegasus Comments at A-4)

Sand Video, Inc. (Sand Video") notes that the reduced spacing implies lower power utilization, and thus a reduction in net bit rate (by approximately a factor of 2x) available through the satellite transponder. (Sand Video Comments at 1) Sand Video then asserts that advanced video compression based on H.264/AVC technology could correct this problem, but does not address the installed base of millions of DBS receivers in service. Logistical and financial challenges involved in a change in source coding standard would be significant.

IV. Telesat Retains Controls Of Its Nimiq Satellites And Will Remain An Independent Operator In The U.S. Marketplace.

Telesat would also like to address certain allegations made by Pegasus about recent developments involving Telesat and its Nimiq satellites. As Pegasus correctly notes the International Bureau did recently grant authority for a new U.S. competitive entrant, Digital Broadband Applications Corp. ("DBAC"), to provide DBS services into the United States using Telesat's Nimiq 1 and Nimiq 2 satellites. (Pegasus Comments at 3) However, Pegasus then goes on to state that this order is unlikely to lead to the introduction of any additional competition, claiming that "[r]ecent filings by DirecTV indicate that it has entered into an arrangement with Telesat that forecloses the opportunity for competitive entry through Canadian licensed orbital locations." This is a gross mischaracterization of the situation. Moreover, any issues which Pegasus has in relation to those applications are irrelevant to this fact-finding proceeding on technical matters, and more appropriately should be filed in relation to those applications.

In response, it should first be noted that Telesat has not entered into any arrangement with DIRECTV that would preclude any other U.S. service provider from using its Nimiq satellites to provide service into the United States. The fact of the matter is that all capacity on Nimiq 1 and Nimiq 2 has already been contracted to the Canadian DTH/DBS service provider Bell ExpressVu. If capacity was available on these satellites, Telesat is not precluded from leasing capacity to any other service provider, subject to a satisfactory commercial arrangement. Indeed, if Telesat had uncommitted capacity on either of these satellites, it would be foolish of Telesat not to take advantage of this opportunity to serve the U.S. DBS market.

The arrangement Telesat has entered into with DIRECTV in regard to using the DIRECTV 3 satellite at the 82°WL position is completely separate from the possible lease of Nimiq satellite capacity to DBAC (or any U.S. entity). As Telesat indicated in its filing in support of the DIRECTV STA request under File No. SAT-STA-20030903, DIRECTV 3 is being leased to provide emergency backup capacity for Telesat's Canadian customer Bell ExpressVu as a result of the anomaly experienced by the Nimiq 2 satellite. The DIRECTV 3 satellite capacity simply restores to Bell ExpressVu the full complement of DBS frequencies it

had previously contracted for to provide its Canadian DTH/DBS service. There was never any intention to use the DIRECTV 3 satellite to provide service into the United States.

The arrangement Telesat has entered into with DIRECTV concerning the use of the DIRECTV 5 satellite at the 72.5°WL position is also unrelated to the DBAC situation. This arrangement enables Telesat to deploy an interim satellite into this Canadian orbital position pending construction and launch of a new satellite. For its part, DIRECTV has a need for DBS orbital frequencies to satisfy FCC mandated local signal carriage requirements. Pegasus' suggestion that this arrangement was somehow motivated by a desire to foreclose competition in the U.S. marketplace is therefore clearly without merit and self-serving.

Related to this, Pegasus suggests that the Commission should adopt a full-CONUS spectrum cap which takes into account both foreign and domestic authorizations, and again mentions recent arrangements involving Telesat. Specifically, Pegasus maintains that "[a]ny arrangement that permits an entity to provide DBS service into the United States from a foreign-licensed orbital location almost exclusively or forecloses such service to an entity's competitors, such as the arrangement between DirecTV and Telesat, must be attributed." (Pegasus Comments at 5)

In Telesat's view, spectrum caps extended in the manner proposed by Pegasus to include non-U.S. licensed orbital locations and spectrum raise extra-territoriality issues. More specifically this could be seen as an attempt to manipulate the use or control of spectrum resources licensed by another sovereign nation, and/or an attempt to extend controls over domestic resources across international boundaries. The foreign satellite operator's spectrum resources would represent new spectrum being made available into the U.S. marketplace and the arrangement concluded between that operator and its U.S. customer would be a legitimate commercial transaction between two independent entities. Spectrum caps extended to cover these types of transactions would be a gross infringement upon the working of normal business relationships, and provide no public benefit. Accordingly, Pegasus' spectrum cap proposal should be dismissed as a self-serving attempt to constrain its competitors through intrusive and non-justifiable regulations.

EchoStar suggests that, should the Commission initiate any rulemaking proceeding on reduced orbital spacing of DBS satellites, it should examine the potential access into the United States market from non-U.S. DBS orbital positions as well. As an example, EchoStar states that many of the same policy issues arise from access into the U.S. market from Canadian DBS positions as from orbital locations with reduced spacings. (EchoStar Comments at 2-3)

In regard to Canadian DBS positions, what EchoStar appears to fail to comprehend, is that these positions are already part of the Region 2 Plan, some with modifications to include coverage of the United States. Moreover, none of the Canadian positions are within nine degrees of any U.S. positions currently part of the Plan. Thus, contrary to what EchoStar suggests, there is no technical basis, and certainly no jurisdictional basis, for rolling the Canadian DBS positions into any rulemaking concerning reduced orbital spacing which the Commission may initiate as a result of this Public Notice. There are no new technical issues presented here and the Commission can continue to rely on the Region 2 Plan procedures and protections already in place to safeguard legitimate U.S. interests against harmful interference from satellite operations in any of the Canadian positions.

Should EchoStar have other (non-technical) policy issues in mind for including access to Canadian DBS positions in any subsequent rulemaking, then Telesat would similarly view this as unnecessary. Specifically, the Commission already has adequate procedures and mechanisms in place to address these issues, as evidenced by the proceeding that led to the DBAC Order allowing this U.S. service provider to access Telesat's Nimiq 1 and Nimiq 2 satellites operating in the 82° and 91°WL Canadian BSS orbital positions.

V. Conclusion

Telesat appreciates having the opportunity to participate in this Public Notice proceeding and commends the Commission for seeking public input on these important matters before concluding whether or not a rulemaking proceeding is necessary. As noted above, many of the parties that filed comments see no reason for the Commission to proceed to a rulemaking to address these matters, citing the detailed procedures and protections already provided in the Region 2 Plan as set out in Appendices 30/30A of the ITU *Radio Regulations* in support of this position. Telesat agrees that these Appendices do provide adequate

protections and effective mechanisms to safeguard the legitimate interests of Region 2 Plan entries, including modifications, where these are consistent with the internationally-agreed upon technical underpinnings of the Plan, and is therefore also of the view that no rulemaking by any Region 2 Administration is necessary.

Moreover, if the technical underpinnings of the Region 2 Plan were themselves to come under scrutiny, Telesat would also be opposed to any Region 2 Administration initiating a separate rulemaking proceeding to address these matters. In Telesat's respectful opinion, the appropriate venue for any such review must of necessity be the ITU, possibly leading to a re-planning conference involving all Region 2 Administrations. Anything short of this would have disruptive, if not catastrophic, consequences for all Region 2 operators and their tens of million of subscribers.

Respectfully submitted,

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